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EDITORIAL NOTE

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THE RELEASE OF LABOUR FROM THE COTTON INDUSTRY

1. The Reduction in Output

In this article we attempt to estimate the number of workers who will be released for war-work by the concentration of the reduced output of the cotton industry into a smaller number of units, which run near capacity, while the remainder are shut down entirely.

The first problem is to estimate the reduction in total output to be expected in the next six months as compared with the 'standard' period April-September 1939.[1] The cotton industry may be divided into two sections, spinning (which includes preparing) and weaving, which, since some yarns are exported directly and not woven into cloth in this country, must be treated separately. We consider first weaving.

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[1] This is the standard period specified under the Limitation of Supplies (Woven Textiles) Order.

According to the Census of Production (1935) exports of piece-goods, measured in square yards, represented 57·6 per cent of total production. Exports of piece-goods, however, fell from 1,948 million square yards in 1935 to 1,393 million square yards in 1939, a fall of over 28 per cent, while in the same period total employment in weaving declined by only 6—7 per cent. If we assume a fairly close proportionality between employment and output, this means that in 1939 exports represented about 50 per cent of total production. Now the average monthly exports during the standard period April-September 1939 were 116 million square yards,[1] while in the first quarter of 1941 exports averaged 62 million square yards per month. Press reports from Lancashire suggest that this figure is hardly likely to have increased, or even be maintained in the future, owing to the new 'selective' Government export policy announced at the end of last year. Thus we may assume that exports in the future will not exceed one-half of the exports in the standard period (116 million square yards per month) i.e. we may set future exports at 25 per cent of total production in the standard period.

Home production for both civilian and Government orders, in the standard period was 50 per cent of the total. From April 1st the sales of piece-goods for the home civilian trade (measured by volume) were limited to 20 per cent of sales in the standard period. If we assume that output and sales correspond, i.e. if we neglect changes in stocks of manufacturers and wholesalers, this means that home civilian output is less than 10 per cent of total production in the standard period (since there were already some Government orders during the period April-September 1939). Finally for Government orders we have to make a guess.

From April 1940 onwards sales of cotton piece goods for the home civilian trade were reduced by 25 per cent of those in the standard period i.e. 12½ per cent of total production in that period, and, since there is every indication that employment was increasing at this time, it may be assumed that this 12½ per cent of production was required for Government orders. Average monthly deliveries of raw cotton to *spinners* in the period April-June 1940 were 25 per cent above the average for standard period; since some yarns are exported directly this is equivalent to an increase of over 28 per cent of weaving output in the standard period, and it is probable that nearly all of this increase was for Government order. In addition 'preference' certificates for Government orders were issued from March 1940 onwards. This suggests that Government production was at least 40 per cent of total production in the standard period plus whatever output there was on Government order in that period. It is probable that there has been some decline in Government work since April-June 1940, and thus for the moment we may take its level at 40 per cent of total production in the standard period for the immediate future. The adjustment to the final man-power figure, if the Government output is substantially different from this, is very simple and the relevant alterations will be indicated at the end of the article. We have then as our estimated figure output of piece-goods: exports 25 per cent, home civilian trade 10 per cent, and Government order 40 per cent, in all 75 per cent of the total production in the standard period.[1]

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[1] Average exports in the standard period were exactly the same as the average for the whole of 1939.

We must now estimate the reduction in the spinning section. In 1935, 12 per cent of all yarns produced were exported, so that the remaining 88 per cent were used for weaving. Thus a reduction of weaving output to 75 per cent means a reduction to 66 per cent $(75 \times \frac{88}{100})$ in the spinning section. The average yarn exports in the standard period were nearly nine million lbs. per months, while in November and December 1940 they had fallen to 2·7 and 3·5 million lbs. respectively. The latter figure we may choose, for the same reasons as given above in the case of piece-goods exports; it represents 40 per cent of the exports in the standard period. If exports in the standard period still represented 12 per cent of total production (the figure for 1935), the future exports will be 4·8 per cent of total production in the standard period. Together with yarn for weaving this gives 70·8 per cent of production in the standard period. We shall therefore be erring on the safe side if we take 75 per cent of production in the standard period for both spinning and weaving.

2. The Release of Labour

The most recent figures for the total insured workers, male and female, in the cotton industry are those for July 1939. Since July falls exactly in the middle of the standard period it will be sufficient to subtract from them the average number of unemployed in the six months April-September 1939 in order to obtain the number of workers who produced the total output of the standard period. These figures, for males and females, in both spinning and weaving are shown in Table I. We can now estimate the number of workers

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[1] This probably represents about 60 per cent of capacity. According to the *Times*, April 8th, 1941, the industry is working at not much more than half its capacity.

In a speech on April 29th, Mr. Raymond Streat, Chairman of the Cotton Board, said that Lancashire would still have trade to do to the extent of well over two-thirds of the 1938 levels. Average employment in 1938 was about 5 per cent less than in the standard period. In the light of these reports an estimate for the future of 75 per cent of production in the standard period appears to be rather too high. Since the figures for exports and home civilian trade are known with a reasonable degree of accuracy, this means that the estimate for future Government orders is probably too high, and 30 per cent of production in the standard period may be nearer the mark. The release of labour corresponding to this figure is given in Table IV.

TABLE I

Average number of workers (aged 16—64) in employment in the standard period (April—September 1939).

	Males	*Females*	*Total*
Spinning and preparing	62,000	96,000	158,000
Weaving	41,000	105,000	146,000

in each section of the industry needed to produce 75 per cent of the output of the standard period, and we shall do it in two ways, which both presume the concentration into a reduced number of establishments, while the rest are shut down. Firstly we may simply assume that to produce 75 per cent of output, 75 per cent of workers are needed (we call this estimate A). Secondly we may attempt to make allowance for differences in efficency between establishments. The Census of Production (1935) gives the value of the net output per head for establishments according to the number of workers employed. If we take the value of net output per head as an index of efficiency we can estimate the percentage of workers needed to produce a given percentage of total output (measured in money terms), if the reduced output is concentrated in the most efficient establishments, i.e. those with the highest net outputs per head. For spinning this method shows that 72·5 per cent of workers can produce 75 per cent of output and in weaving also 72·5 per cent of workers can produce 75 per cent of output (estimate B).[1] In Table II the numbers of workers required to produce 75 per cent of total output in the standard period, estimated by the two methods, are given.

TABLE II

The number of workers required to produce 75 per cent of total output of the standard period.

	Estimate A	*Estimate B*
Spinning	118,000	114,000
Weaving	110,000	106,000

Finally, to obtain the release of labour due to the concentration, we must take account of any changes in employment in the cotton industry which have taken place since September 1939. Such changes will be due to (*a*) reduction of unemployment, (*b*) calling up of male operatives, (*c*) new entries or departure of workers to munitions or elsewhere.

(*a*) The average numbers of unemployed in the standard period

[1] This result is at first sight surprising; only for quite small outputs is there an appreciable extra release of labour from the cotton industry due to concentration in 'efficient' establishments. It is also interesting to note that the small establishments have in this industry, as in many others, a net output per head considerably above the average. The very large establishments, employing more than 1,000 operatives also tend to be above the average, and in general the medium establishments make the poorest showing. In cotton weaving, for example, those employing 500—749 operatives have an annual net output of £99 per head compared with £176 per head for those employing 11—24 operatives, and a general average of £123 per head.

were 25,000 in spinning and 39,000 in weaving. The latest figure for unemployment by industries was given in August 1940, since when the Ministry of Labour have ceased to publish the industrial figures; in that month the numbers of unemployed were 10,000 in spinning and 9,000 in weaving. The very heavy overtime working of the industry which occurred after the collapse of France was largely over by August, and there was a return to a normal working week. It is probable, however, that since August 1940 there has been some increase in unemployment, so that under this head we must add to employment in the standard period about 12,000 in spinning and 25,000 in weaving.

(*b*) The age of reservation for all classes of cotton operatives was 30 in the September 1939 Schedule, but this was reduced to 25 for nearly all classes in May 1940. The 26-year age group registered in April 1940, and so presumably were not reserved; we must therefore suppose that male workers from 20 to 26 were withdrawn from the industry. According to the 1931 Census the numbers in this age-group represented approximately 25 per cent of all male operatives in spinning and 20 per cent in weaving. Any change in the age distribution since 1931 is likely to have reduced these percentages, so we may apply them without danger of over-estimating our final figures. Under this heading we must allow for withdrawals of 16,000 workers from spinning and 8,000 from weaving.

(*c*) Between July 1937 and July 1939 the number of insured workers in the industries was falling at the rate of about 3 per cent per annum. If this trend persisted since the outbreak of war, we must subtract about 5 per cent from the numbers in employment in the standard period,[1] giving a reduction of 8,000 in spinning and 7,000 in weaving.

(*a*), (*b*) and (*c*) taken together thus give a net subtraction in spinning of 12,000 and a net addition in weaving of 10,000. It is obvious that these figures are inconsistent since the technical ratio between the two sections of the industry is not preserved. There must therefore have been some transfer of workers from weaving (or elsewhere) to spinning, and if we suppose that most of the transfers were internal to the industry then the net effect of all these factors on employment between the standard period and February-March 1941 was very slight.

As a check to this conclusion we may take the monthly deliveries of raw cotton to spinners. The average deliveries in the standard period were 52·4 thousand bales. For the second quarter of 1940 deliveries reached a peak of 66 thousand, but by the first 2 months of 1941 the monthly average was down to 48·9, 7 per cent less than in the standard period. It is possible, however, that spinners have been able until now to make good from their own stocks differences in delivery. Our final conclusion is therefore that the employment situation in February-March 1941 was little different from that in the standard period April-September 1939. Thus to obtain estimates for the release of man-power we have only to subtract from the employment figure in the standard period the numbers required to produce the reduced output (given in Table II). Taking no account of efficiency (estimate A) we get for spinning 40,000 and weaving 36,000. If output is concentrated in the most efficient establishments (estimate B) the estimates for release become for spinning 44,000 and weaving 40,000, giving a total of 84,000.

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[1] Strictly we should estimate the present number insured and then subtract unemployed, but the error is of the second order.

Table III

The number of workers released by concentration. (Government production 40% of output in standard period.)

	Estimate A	*Estimate B*
Spinning	40,000	44,000
Weaving	36,000	40,000

These figures, it will be remembered, presume a Government output of 40 per cent of total production in the standard period. We can apply exactly the same method for other percentages, say 10 per cent, 20 per cent, 30 per cent and 50 per cent, and the results, ignoring the question of efficiency, which is, as we have seen, not very important in this industry, are shown in Table IV.

Table IV

The number of workers released according to different ratios of present Government output to total output of the standard period (estimate A).

	10%	20%	30%	40%	50%
Spinning	87,000	71,000	55,000	40,000	25,000
Weaving	80,000	66,000	51,000	36,000	21,000

It is advisable, in conclusion, to draw attention to certain assumptions underlying the above calculations, which, if incorrect, are sources of error. The figures given in Tables III and IV are estimates of the numbers of workers who were in employment in February-March 1941, and who will be released in the future as the concentration comes into effect. The cotton industry is at present undergoing a fairly drastic reduction of output, so that the employment figures may change considerably from week to week. Even where there is no 'concentration' a reduction in output will be followed by a reduction in employment, and an increase in short-time working. Thus there may be some workers attached to the industry, working short-time and yet eligible for unemployment benefit, and changes in their numbers obviously affect our results. Throughout this article we have assumed that the 'degree' of short-time was the same in March 1941 as it was in the standard period, and this assumption is a possible source of error. Again, if concentration means that all workers will in future work a full working week the release of labour may be greater than we have estimated.

G. D. N. Worswick.

THE BALKAN WAR AND THE BLOCKADE OF GERMANY

By the conquest of the Balkans Germany has obtained additional routes by land and sea, with the help of which her imports can be increased considerably. The problem of Germany's resources will therefore have to be reviewed anew.

Imports of Roumanian oil had been limited by transport facilities, and amounted to about 1·4 million tons in 1940 which were brought to Germany mainly by river.

With the help of 200 tank vessels (= 120,000 tons) about 10 trips Giurgiu-Vienna can be accomplished yearly ...	1,200,000 tons of oil
By the improvement of rail transport about 100,000 tons monthly can be transported, equalling annually ...	1,200,000 „ „ „
In November 1940, 60 river tugs and barges, 20 of which were British owned and 40 British chartered, totalling 17,500 tons were taken over by the Roumanian Government. These account for another	200,000 „ „
	2,600,000 „ „ „
Germany is constructing in addition 200 tank vessels for river transport	1,200,000 „ „ „

Allowing for the fact that the new barges are still under construction, and that sabotage, accidents, etc., hinder the transport, about 3,000,000 tons of Roumanian oil may in 1941 be brought by river and rail to Germany. No transport problem will arise for the quantity of oil which will be used by the German army in the Balkans. The exportable surplus of Roumanian oil in 1941 is in the neighbourhood of 4,000,000 tons, of which about 450,000 tons will be needed for other Balkan countries, i.e. Hungary 50,000 tons, Yugoslavia 150,000 tons, Bulgaria 100,000 tons, Greece 150,000 tons[1]; so that about another 550,000 tons remain for Italy. The export figures are based on the assumption that the process of continuous decline in Roumanian oil output has not been decisively reversed. Output amounted to 5·7 million tons in 1940 compared with 6·25 million tons in 1939 and 8·7 million tons in 1936.

The decline was largely due to a nationalist policy and legislation which was directed against the big foreign-financed oil companies producing about 80 per cent of total output, but failed to increase the output of the smaller Rumanian firms. Under German rule, maximum total output will be the only valid principle and an output of 7-8 million tons may again be achieved if the problems of transporting the export surplus are solved. The construction of new pipe lines has been decided in order to relieve transport pressure on the railways.

Every ton of Rumanian oil which can be shipped to Italy benefits Germany. Up till now Italy, which in 1938 consumed 3,000,000 tons of oil, has been almost completely dependent on oil imports from Germany, since the British blockade prevented deliveries from overseas. In peace time Italy had received 1·2 million tons from U.S.A., and ·9 million tons from South American countries, Iraq and Iran. Oil deliveries from Albania—300,000 tons in 1939—had almost come to a standstill as a result of the Albanian campaign, while transport of Rumanian oil by sea-route—635,000 tons in 1939—was too hazardous in view of British mastery of the Mediterranean. Instead of the 1·5 million tons of Rumanian oil which Germany and Italy may have obtained in the previous year, they may now obtain between 3·5 and, with increased production, 5·5 million tons. Even if the whole of the 3 million tons for Germany as estimated above, cannot be carried by railway and river, owing to sabotage, the remainder can be transported through the Dardanelles, by the tanker fleets at the Axis' disposal[1] (see p. 144).

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[1] These estimates are for war-time needs.

OTHER SOURCES OF SUPPLY

Russo-German trade relations have been limited largely by restricted transport facilities. The beginning of a German war of nerves against Russia coincided with the improvement of the trade routes by the change in the Balkan situation, and may be a reminder to Russia that her exports, now that the route Black Sea-Aegean-Adriatic has become more secure, should be increased. Up to the present there were not enough trucks and tank wagons to supply Germany's needs. The Reich needed its own rolling stock which in addition is of a different gauge. The newly-built Russian-Hungarian railway improved conditions slightly, but, for instance, oil from Baku which produces 75 per cent of Russia's oil output would have had to be transported over a long distance inside the Soviet Union whose rail system is overburdened by home demands. Now Baku's oil can be shipped from the Black Sea port Batum. Russia's total oil exports in 1938 amounted to 1·2 million tons out of a total production of 30 million tons but in 1931 5·2 million tons had been exported out of a production of 20 million tons. Although Russia sent in 1940 only a negligible amount of oil to Germany (about 125,000 tons) and would probably like to keep all her oil for herself, concessions to German pressure may increase the exportable surplus to some million tons, while the conquest of the oil wells by Germany would put the total output at Germany's disposal. It is worth mentioning that the value of exports of oil drilling machinery from U.S.A. to Russia during the first eight months of 1940 was double that exported during the whole of 1938.

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[1] Oil supplies from countries other than Rumania and Russia, from stocks in conquered countries and from synthetic processes, at Germany's disposal in 1941, have been estimated at 6·6—9·0 million tons. Consumption of oil in peace time amounted to about 7 million tons in Germany, 3 million tons in Italy and 8—10 million tons in Axis dominated territory. Technical changes in fuel consumption, restrictions imposed in occupied countries, the check on commercial and private consumption and the shrinkage of shipping have reduced this quantity by perhaps 50 per cent.

The areas situated near the Black Sea are also rich in other materials that rank among the first on the blockade list, such as Ukrainian grain, copper from the Tiflis area, and manganese from the Odessa area.

Iran's oil production of 10 million tons and Iraq's of 4 million tons yearly are almost entirely at British disposal. For other Iranian exports, consisting mainly of raw cotton, raw wool, hides and skins, raisins, and carpets, Germany was the chief customer, while exports from Iraq to Germany were of a small magnitude and were discontinued after the outbreak of war.

Trade between Germany and Turkey had almost come to a standstill at the outbreak of war, but through various agreements has meanwhile slowly increased. If Germany should not invade Turkey, trade between the two countries will most probably increase further. The Turkish railway system is directed towards the Black Sea, the Marmora and the Aegean regions, the coasts of which are now virtually under German domination. Shipping is mainly concentreated at the ports of these areas. (30 per cent in Marmora region, 50 per cent in Black Sea, 20 per cent in Mediterranean, including Aegean.)

The Shipping Position

For the transport of the increased quantities of raw materials the railway-lines of Italy, Vichy-France and the Danubian countries will be used to the utmost of their capacity. The Balkan railways, however, have the disadvantage of being, apart from the main lines, single tracked and difficult to repair in the mountainous parts. As far as the sea routes are concerned, the Axis will command the Italian fleet, consisting in 1939 of about 3·3 million tons, of which up to May 12th, 1941, 1,000,000 tons have been sunk and other vessels have been confiscated in foreign ports. A section of the 3 million ton French merchant navy, a portion of which is at present engaged in traffic between North Africa and the Vichy ports of Marseilles and Toulon, can also be engaged on the route along the Italian coast. Of the 1·9 million Greek tonnage 400,000 tons were on charter for Great Britain, and a large part has been saved now. Yugoslav ships may have been partly brought outside Axis reach. Rumanian merchant ships amount to about 90,000 tons only. The extent of Russian merchant vessels in the Black Sea available for export is unknown to us. Turkey's merchant fleet amounts to about 200,000 tons.

Tanker tonnage available to the Axis for the transport of oil may be estimated from the following data.

Sea-going tanker tonnage owned in 1938 by various countries.

Germany	202,000 G.R.T.
Italy	380,000 ,,
Spain	77,000 ,,
France	242,000 ,,
U.S.S.R.	123,000 ,,

It is impossible to say what proportion of this tonnage is available for the purpose of taking oil from the Black Sea to Italian ports, but considering that additional tankers will have been built since 1938 it should be in the neighbourhood of 500,000 gross registered tons. The distance from Constanza to Trieste is about 1350 miles and about 1800 from Batum. If we assume an average speed of 12 knots the journeys would take about 5½ and 7 days respectively. Allowing ten days in port at each end of the journey this gives a total of 31 and 34 days for the 2 voyages, or at least 11 and 10 voyages per year on the respective routes. The assumed gross tonnage available would, therefore, amount yearly to about 5·0—5·5 million gross tons, or perhaps 3·5 million net tons with an oil-carrying capacity of some 6·5 million metric tons. An estimate without more exact knowledge of the vessels of these countries at the disposal for trade with the Axis is difficult to make. But the change in Germany's position with regard to decisive raw materials, especially to oil, may contribute to an intensification of her military operations.

S. Moos
E. J. Buckatzsch.

CANADA'S LABOUR RESERVE

The problem of available labour in Canada is dealt with in a Report of the Government Inter-Departmental Committee on Labour Co-ordination.[1] According to its estimates the requirements of additional man-power in the course of 1941 will amount to 117,000 for the armed forces, to about 100,000 for employment in the war industries proper, to another 100,000 for employment in industries auxiliary to war industry (including transport etc.), and to 20,000 skilled workers for the army and air force; the total to be absorbed is thus about 340,000. Of the 200,000 industrial workers 75,000 must be skilled or semi-skilled workers.

To meet the expected demand for a total of about 100,000 skilled and semi-skilled workers a corresponding number are to be trained in the course of the year. Fifty thousand of them will be trained in vocational schools which to a great extent will provide preliminary training; the other 50,000 will be trained in plants. Industry will be obliged to take a large measure of responsibility for the training; employers who receive war contracts may be obliged not only to train the labour they need themselves, but also a certain amount of additional labour; employers in other than war industries may also be obliged to do training of workers for war purposes. The training in plants takes the form of up-grading and is closely connected with the actual process of production. A uniform system of minimum wages for the trainees in industry is established. The hourly minimum wages range from 20 to 35 cents which is probably low as compared with what unskilled labour earns in most parts of the country; this part of the scheme may prove unsatisfactory in view of the British experience. The magnitude of the task of training 100,000 men can be seen from the fact that the numbers of all workers employed in manufacturing as a whole is at present about 800,000.

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[1] (Canadian) *Labour Gazette*, January 1941.

As to the supply of labour in general, the Committee estimates the unemployed reserve at four times the number of registered unemployed in September, which gives 225,000. The number of young people who will leave school in summer is about 100,000. The sum of 325,000 matches approximately with the requirements of additional man-power as stated above.[1]

On the basis of these figures, there will be no labour available to increase employment in non-war production in 1941; therefore the production of consumers' goods and non-essential investment taken together must not surpass the 1940 level.[2] This is compatible with an expansion in some consumption goods industries, offset by restriction in others, and in non-essential investment. In fact, such a shift is unavoidable, because the shortage of raw materials, e.g., steel, will necessitate a restriction in non-essential industries consuming steel (private cars, machines, construction). The labour released may be directly employed in war industry, and some of the unemployed labour may therefore be left to consumption goods industries which do not absorb scarce materials.

If total non-war production must not surpass the 1940 level, then also expenditure on consumption and non-essential investment taken together should not overstep this level, otherwise price increases or decreases in stocks must follow. Two factors will work in the direction of an increase in this expenditure: First, the yearly rate of deficit spending of the government and investment in war industry increased considerably in the second half of last year; the increase may be put at $600 m. at least. The main effects of this spending must work out in the first half of 1941; on the basis of a multiplier of 2 an increase in consumption of about \$500–600 m. from this source may be assumed. This factor might be offset by a restriction of non-essential investment, carried through by the raw material controls which have been introduced already. In peace time gross investment in construction and industrial equipment was about \$690 m.[1] Apart from this there are durable consumers goods which may also be affected by raw material control (motor cars).

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[1] The Committee's estimate that about 200,000 workers will be available for increase of production in 1941 differs from the estimate given in Volume 3. No. 3. p. 38 of the BULLETIN where it was assumed that total employment could rise from an estimated average of 2·58 million in 1940 to an average of 2·70 million in 1941, i.e., by 120,000 only. The difference arises largely because the extension of the training period for the Militia will not absorb additional men in 1941, the extended training period being offset by a reduction in number of people trained.

[2] It is assumed here that the active foreign balance will not be reduced in 1941.

The second factor tending to increase consumption is the additional investment in war industry in 1941. If 200,000 workers are to be employed additionally on war work the corresponding output may be estimated at \$500 m.[2] This may be compared with the increase in war expenditure according to the new Budget; it is to rise from a rate of \$1,000 m. at the end of last year to a rate of \$1,450 in the course of this year. Apart from this British Government expenditure in Canada will also rise in this year. The (Canadian) Budget Statement gives the figure of \$1500 m. for British purchases in the present financial year; this compares with a total of about \$885 m. of British purchases in the period from September 1939 to December 1940. The rate of British purchases at the end of 1940 is not known exactly, but it was certainly much lower than \$1500 m. We can conclude that the rate of Canadian and British Expenditure taken together will increase by substantially more than \$500 m. in the course of this year. This does not necessarily mean that the above estimate of additional war output of \$500 m. is an underestimate, because the increased expenditure is partly accounted for by increased pay for the services, etc. For the financing of the increased expenditure we can count on an increase in saving by about \$250 m. (corresponding to the increase in output of \$500 m. and to a propensity to save of 0.50); and on an increase in taxation by roughly \$300 m. The sum of \$550 m. will certainly be overstepped considerably by the rise in the rate of Canadian and British expenditure taken together.

Taking everything into account, it may be said that the inflationary tendencies may be offset to some extent by raw material control and taxation, but are not likely to be wholly offset. The restriction of private investment will be possible only to some extent because much of the investment carried on in peace time is essential now, and must be continued. A slight inflationary rise in consumption is therefore to be expected, and correspondingly, scarcity of labour may develop (while frictional unemployment at the same time may come into existence).

While the problem of absorbing the surplus of spending may be solved with some delay, immediate steps are necessary to secure an adequate number of workers for war industry and to prevent bidding up of labour between non-essential trades and war industry. A rise in employment in non-essential industries might be prevented in two ways. Either output and employment in these industries might be limited directly, a method which is somewhat inelastic in view of the necessary shifts. Or the prices in non-essential industries might be fixed at their present level, so that employers in those industries will have no incentive to bid up wages and to expand production. This would require (1) a control of import prices; the raw material imports might be concentrated in the hands of the supply department which could then allot raw material at fixed prices to non-essential industries, (2) prices of all raw materials and semi-finished goods needed by both war industry and non-essential industry would also be fixed; their distribution would have to be regulated by rationing, (3) a certain amount of standardization would have to be employed in some industries, to facilitate the control of prices; it would also reduce costs and so counteract any tendency of increase in cost (due, for example, to lower productivity of labour); (4) also some control of export prices, if the expansion of some export industries is not desired.

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[1] Estimate for 1937, from D. C. Macgregor, Gross and Net Investment in Canada, *Canadian Journal of Economics*, February 1941.

[2] From the regression equation page 38, BULLETIN, Vol. 3, No. 3.

Such a price fixing scheme would certainly also cause some friction, but probably less than direct limitation of output. It would always leave the non-essential industries free to absorb any surplus of labour which is not required in war industry. On the other hand, war industry could have automatic priority with respect to labour if employment in war industries would be made more advantageous to the worker than other employment. This could be done in the form of special social legislation for these industries, higher minimum wages, advantageous training facilities, and above all, a higher degree of security of employment, which war industries probably could offer more easily than other industries.

J. Steindl.

SHELTER POLICY

The success of all war measures largely depends on the modification of policy to meet changing conditions. This is particularly clear in the case of air raid shelter policy. The changing tactics used by the enemy—his new systematic and repeated attacks on 'Target Towns'—and the changing nature of his weapon—the use of 'land mines' and lightly-cased surface-exploding bombs in place of heavy-cased deeply-penetrating ones appear to make necessary the provision of a new type of shelter. The need appears to be for shelters which shall be both very safe and habitable for long periods, which does not seem to be altogether true of existing surface shelters, whether family or public. Measures taken up to the present, even including the opening of the London underground railways for night shelters, seem to have been based on the assumptions that raids would be short, sporadic and infrequent, and that air raids would not create a quantitatively important housing problem. Some of these assumptions are no longer valid, and others may cease to be so, and it is therefore necessary to review shelter policy.

An interesting suggestion was made last December by Mr. Geoffrey Pyke, who pointed out that many of our important cities including particularly such 'Target Towns' as London, Hull, and Portsmouth, are all within a short distance of chalk hills. It is very easy to excavate tunnels and caves in this material, and such caves can be made warm, dry and habitable and would in some cases be useful after the war.

The construction of such shelters must depend on two factors—the supply of labour for tunnelling and the provision of transport to and from the shelters. The requirements of both vary (inversely with each other) according to the policy adopted—of providing safer and more habitable dormitory shelters with much more advanced amenities to allow restful, healthy sleep than are now provided, or of providing permanent subterranean homes for the population of 'Target Towns.' This implies still more extensive provision of cooking, eating and recreation facilities, the new shelters resembling subterranean tenements. The former would require less initial labour and more daily transport services, and would meet the immediate need for safety. The latter would require more initial expenditure of labour and material, but would limit the daily transport requirements in that wives and children would live in the shelters during the day, and would represent in the long run a more economical way of maintaining the supply of living-accommodation than the reconstruction and repair of houses which may be damaged again later. It would have many advantages in that it would allow the preservation of the family to be combined with the safety of the children which the present evacuation policy does not, and it would give rise to economies from communal food and health services and other similar savings of labour. The second and more ambitious scheme could no doubt be developed from the first, largely by spontaneous and voluntary efforts.

Mr. Pyke made an estimate of the labour force required to provide simple chalk shelters, using the experience gained in the excavation of the celebrated Ramsgate shelters. He estimated that, allowing 81 cubic feet per person (as compared with the minimum of 50 cubic feet recommended in Lord Horder's report and the 30 cubic feet per person allowed by the official technique for accommodating six persons in an 'Anderson' shelter) and assuming 10 man-hours of work per cubic yard excavated (the Ramsgate figure was lower than this) 25,000 men working a 45-hour week could provide sleeping accommodation for 1 million people in six months. This is almost certainly a very conservative estimate, and the labour force required would clearly be reduced by the use of more elaborate equipment than that used at Ramsgate and by an initial and temporary reduction of the volume of space allowed per head. Not more than 20 per cent of the labour required is skilled and if no other supply is available it might be obtained either by the employment of units of the Army, or by the temporary demobilization of a certain number of men. The work seems quite urgent enough to justify such action.

The accessibility of such shelters would clearly depend on local conditions. In the case of London it is well known that all the south bound railway trains pass through chalk hills not long after leaving their starting point, and that in many cases they pass through cuttings, from which entrance shafts could be driven into the hills. Some idea of the capacity of existing transport facilities may be obtained from the following data. In 1938 about 100,000 people were conveyed in one day to Epsom alone by the Southern Railway and the motor services of the L.P.T.B. The total number of season ticket holders making journeys originating on the Southern Railway, equated to a number of *yearly* tickets was about 219,000 in 1938. But this gives no indication of the traffic capacity of the line. The total number of bus and coach passengers originating in the L.P.T.B.'s services in 1938 was about 2,167·3 million, or a daily average of about 6 million. These figures suggest that the existing passenger transport services would be sufficient to meet the daily need for the transport of those occupants of the suggested shelters who were obliged to travel daily to and from the middle of London. Some saving would result from the automatic restriction of transport requirements on other routes.

This note is not intended to do more than suggest in general terms that the scheme proposed offers in principle a possible solution of the increasingly serious problem of providing adequate shelter for part of the civilian population. It is absolutely essential that the suggestion should not be rejected out-of-hand merely because it involves certain obvious difficulties.

E. J. Buckatzsch.

DIARY

Finance

The position in the Budget deficit financing in the last months is shown by the Table below. We give an average of March and April figures instead of dealing with each of these months separately because it is impossible for technical reasons to allocate the increase in Treasury Bills between tender and tap issues in March.

Government Borrowing (+) or Repayment (−) £Mn.*	*December Jan. Av.*	*February*	*March Apr. Av.*
Tap Bills + Ways and Means Advances ...	+ 61	+ 98	+ 3†
Tender Bills	0	0	+ 10
Treasury Deposit Receipts	+ 54	− 11	+ 71
Floating Debt	+ 115	+ 87	+ 84
2½% National War Bonds + 3% Saving Bonds	+ 75	+ 77	+ 72
3% Defence Loan	—	—	+ 59
National Savings Certificates + 3% Defence Bonds	+ 30	+ 29	+ 35
1% Treasury Bonds 1941	—	− 99	—
Other Items	+ 2	+ 1	+ 2
Total Borrowing or Repayment	+ 222	+ 95	+ 252

* The official figures are published at 4 and 5 weeks' intervals; the figures given in the table are reduced roughly to the monthly basis.

† £5 million of bills redeemed in March out of Sinking Funds are excluded.

As a result of the increase of the weekly tender in April from £65 million to £70 million and consecutively to £75 million, Tender Bills which were more or less stable in the last months showed a marked increase in March–April. The fact that Tap Bills + Ways and Means Advances ceased to rise may be explained by: (1) the issue to the Post Office Savings Banks of 3 % Defence Loan; (2) redemption of tap bills in the possession of the Bank of India by repatriation of the called up Indian securities.

The rise in note circulation probably due chiefly to the rise in the wage-bill caused a rapid fall in the Bank of England Reserve from £29 million in the middle of February to £8 million in the middle of April. This low level necessitated an increase in the Fiduciary Issue. At the end of April this was raised by £50 million.

The prices of bonds have shown a remarkable stability since the beginning of this year: (Bank of England Statistical Summary, average of working days)

	2½% Consols	2% Conversion	3% War	3½% War
January	77·4	98·8	100·3	103·0
February	77·2	98·8	100·2	102·8
March	77·7	98·6	100·5	103·2

The change from March to April was also small. Such a development was anticipated in this Bulletin[1] in connection with the widening of the scope of bonds on tap by including longer dated securities (3 per cent Saving Bonds): 2½ per cent and 3 per cent bonds being available on tap, a boom or slump if the bond market is chiefly reflected not in a rise in bond prices but in greater or less purchases of securities on tap.

Who Accumulates Treasury Bills?

The White Paper supplies some information on this point. It gives the change in Treasury Bills held by the Market as + £458 million in the year from September 1st, 1939, to August 30th, 1940, and as — £29 million in the *half* year from September 1st, 1940, to February 28th, 1941.[1] As follows from the context, in the Market holdings are included those of the Banking Department of the Bank of England and of the Central Banks of Dominions and India. The changes in these may be roughly estimated at over + £150 million in the first of the periods in puestion and about + £100 million in the second. Taking these estimates for what they are worth we obtain about + £300 million and — £130 million for the changes in Treasury Bill market holdings *sensu stricto*.

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[1] Bulletin, Vol. 3, No. 1, January 11th, 1941, page 12.

Bills Discounted and Short Loans in assets of Clearing Banks showed in the periods considered a change of + £150 and — £240 million respectively. Thus new Treasury Bills financed outside Clearing Banks or substituted for commercial bills in Clearing Banks' portfolios (the latter was of importance only in the first period) amounted to £150 million in the first period and £110 million in the second.

These amounts may be compared with the increases of all Money Market assets of Clearing Banks (inclusive of Treasury Deposit Receipts) which amounted to £176 and £64 million respectively in the periods considered. This comparison shows the important rôle the sources outside Banks play in the financing of the Floating Debt.

PROGRESS OF CONCENTRATION

On April 29th the President of the Board of Trade announced in the House of Commons that, in order to speed up the progress of voluntary concentration certain dates had been fixed to set a limit to the period within which voluntary schemes could be submitted. Limiting dates had already been fixed at May 17th for cotton spinning and May 27th for cotton and rayon weaving. The new limiting dates were:

May 17th. Toilet preparations, gloves (except knitted woollen gloves) photographic goods, sports goods, musical instruments.
May 24th. Toys, lighters, umbrellas, plastics, combs, carpets, lace and hosiery.
May 31st. Fountain pens, pottery, cutlery, jewellery, linoleum, leather goods, corsets, braces.

The definite limit on the period for submission of voluntary schemes will no doubt speed up concentration to some extent. A statement issued on the same day as Captain Lyttleton's speech said that a large number of schemes for various trades had been submitted to the Board of Trade. The annual turnover of the firms concerned represented £50 million (excluding textile trades) and the number of employees was 25 per cent of the total manpower in the trades affected; and there were more schemes coming in. It should, however, be pointed out that, of the first 500 schemes submitted to the Board of Trade, only 200 were accepted for further consideration, so that it does not follow that satisfactory arrangements covering 25 per cent of the labour force have actually been made. It seems in fact highly improbable that, when the limiting dates are reached, anything like the whole of the concentrated industries involved will have been covered by voluntary arrangements. In consequence it is of the utmost importance to know what other plans the Board of Trade has to complete the necessary telescoping. What little has been said is not very encouraging. After announcing the limiting dates Captain Lyttleton went on to say, '. . . large and small firms alike not making these arrangements will have to face certain consequences. Their labour will in many cases have to be taken for munitions or for the armed forces; wherever there is a shortage of raw material its preferential allocation to nucleus firms and firms grouped with them will mean that the whole of this shortage is felt by the other firms, and consequently the policy of the Government will be to direct requisitioning to their premises. The difficulties attending a forced concentration of a large number of very small firms are very great, and where these arrangements are not made on a voluntary basis firms that have not been concentrated will have to stand the burden of decreasing turnover without the advantages of concentration.' This statement appears to imply that the Board of Trade has no further plans at all, if the voluntary scheme should fail, and the national war effort will consequently only benefit to the extent of the voluntary arrangements already made. The remainder of the industries concerned will presumably decline in the haphazard and wasteful way which it is the very object of the concentration scheme to avoid. There will be short time working, gradually the smaller firms will be swallowed up by the large units which are those most likely to have effected voluntary 'nucleus' arrangements, and there will be no guarantee that the most productive machinery will be kept in operation.

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[1] The increase in Tender Bills in these periods was £336 and £9 million respectively. Thus the Tap Bills held by the market increased in the first period by £122 million and fell in the second by £38 million.

By fixing limiting dates for the submission of voluntary schemes the Government has in fact already admitted the necessity for compulsion, but it is compulsion without any compensating direction or plan. The best solution, and at the same time the one which is fairest to all firms large and small alike, lies in the establishment of operational companies covering all the firms in an industry, which will produce standardized products for the duration of the war. Once the distinctions of trade marks and brands have been removed, there is no obstacle to the picking out of the most suitable machinery and to the release of the maximum quantity of labour at the places it is wanted.

Absenteeism

Absenteeism has become an increasing difficulty in planning for a steady flow of production. Estimates vary, and the degree of absenteeism changes from one district to another and between firms. Trade Union statements seem to suggest that it has not increased appreciably taken as a percentage of the total amount of work done. The Minister of Mines, Mr. Grenfell, estimated absenteeism among miners at a Midland coalfield at 6 to 7 per cent avoidable and 6 to 7 per cent unavoidable, compared with a combined pre-war figure of about 8 to 9 per cent. The Secretary of the Mineworkers' Federation stated that during the 13 weeks ended February 22nd, 6½ per cent of the total number of shifts which could have been worked had been lost through avoidable absenteeism.

There have been similar complaints in Germany even before the outbreak of war and it seems probable that in general absenteeism increases sharply as a state of full employment or over-employment is reached. Absenteeism in other grades of employment might prove to show a similar development if statistics were available.

The reasons for this are manifold. A seven-day working week or pressure of over-time make it imperative to take a day off occasionally in order to recuperate. A planned system of holidays, after a period of regular attendance may be a sufficient inducement to canalize the desire for leisure without disturbing the flow of production. Similarly, a reduction of the working week for married women who have to do their housework in addition to the industrial work, might help to reduce unplanned and disturbing forms of absenteeism.

Other reports seem to suggest that the growth of avoidable absenteeism is connected with the extension of income taxation to lower income groups, and in the case of women with the growing shopping difficulties. That new taxation may reduce—at least temporarily—individual effort and initiative was widely discussed at length in the case of E.P.T. and other taxes affecting manufacturers, and could not come as a surprise to the Chancellor of the Exchequer in the case of workers. The effect of the new taxes on the desire for increased leisure at a given level of earnings may gradually taper off, but it is obvious that in shaping fiscal policy the more distant effects on the voluntary efforts of the people hit by the taxes should be taken into account. A reduction of the existing inequalities in the distribution of consumable goods through general rationing might have achieved the fiscal aim of diverting spendable income to the Government without affecting the willingness to work in the same degree. At the same time it would have tended to reduce one important source of women absenteeism: shopping difficulties. Queues are a definite sign of maladjustment in the distributional sphere and there can be little doubt that they would disappear for all standardized products and largely also for other goods if rationing were extended to cover the whole range of consumers' goods.

To order workers to pay their employers damages for what is regarded as avoidable absenteeism should not become a general practice; it shows a failure to understand the deeper roots of the phenomenon, and especially the interactions of economic policy in the social field.

The Government's Economic Policy

The President of the Board of Trade, at a recent public luncheon, asserted that the Government had a coherent, comprehensive and comprehensible economic plan. In his view 'this plan embraces the whole problem' and 'no part of it is unrelated to the other.' 'Of course,' he went on, 'these plans take time to develop; *they must not at any cost all be brought into operation at once.*[1] This is one of the reasons why the observer may get the impression that the various bodies of economic troops . . . are moving about haphazardly. They are, however, all designed to converge upon the front and fall into their places at the right moment.' Captain Lyttleton then explained that the building of factories takes time, and that nothing would have been gained if labour had been released prematurely. But is this really so? Since last summer when speed was essential, and this country was at a gross productive disadvantage, it was not so much necessary to build new factories as to take over existing ones. Where new factories were built, they should have been built in areas where there was an adequate supply of labour and housing. It takes time, moreover, to train people, and as long as young women, handicapped by a disorganized distributive system, and having to travel long distances to and from work, are working sixty hours a week and more, we cannot be said to be moving according to an all embracing plan. It has long been known that optimum working hours for women are less than forty-eight hours per week. Many more could therefore have been released for munitions without any danger of unemployment. Furthermore, if it was not possible to absorb more workers into armament production, the Government had the alternative of building up stocks of 'non-essentials' in bomb-proof stores, instead of letting all supplies be used for current consumption.

The claim that rationing is a success does not meet with general agreement. Apart from spreads, the Ministry of Food has failed to tackle articles which must be rationed by groups, and the Board of Trade itself has not rationed the consumer at all, but merely restricted supplies to the retailer, which does not guarantee an equitable solution of the problem.

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[1] Our italics.

With the general economic objectives of the Government during the war, as outlined by Captain Lyttleton, there is and can be no disagreement; at the same time it is clear that not one of the objectives has in fact been completely achieved and in many cases the methods being followed are insufficient to achieve their object.

AUSTRALIA'S WAR EFFORT

In Australia a survey of man-power has been taken, and new measures to speed up the war effort are to be expected. The reserve of unemployed labour is very small (unemployment of trade union members was 6 per cent last November which corresponds very roughly to a total unemployment of 120,000) and will be further restricted by an additional recruitment of 50,000 men for the army which began in April. At present, 170,000 people are occupied in war production. An increase in this number will have to be met largely by the reduction of employment in non-essential industries.

War expenditure for the financial year ending in June 1941 was estimated at £A186 m. (£Stg. 149 m.) of which £A143 m. (£Stg. 114 m.) are expenditure within Australia. The expenditure on munitions (and supply) was estimated at £A120 m. The expenditure overseas of £A43 m. is financed partly by loans from Great Britain. Expressed as a proportion of (net) National Income produced, which was £A840 m. in the financial year 1939–40, the total war expenditure is of the order of 20 per cent, and the war expenditure at home of the order of 15 per cent. The total war expenditure is met by taxation to the extent of £A65 m. and by borrowing to the extent of £A121 m.

So far the Australian war economy has worked without severe controls (except in the field of foreign trade, where imports have been cut down by £A12 m., not taking into account the effects of rationing of petrol, silk and newsprint, and in the field of agriculture which is controlled by purchase schemes). There has been no cut in private investment; the amount of gross investment in peace time (1937–38) is estimated by Dr. Wilson at £A217 m., of which £A50–60 m. represent cars and durable consumption goods, and about £A100 m. are depreciation. Public works of the States have not been cut down until recently. As far as consumption is concerned, there was no cut up to the beginning of the year, to judge from retail sales; since then the severe taxation of the December Budget may have had some restrictive effects. Peace-time consumption is estimated at £A600 m. for 1938–39 (Mr. Isles in *Economic Record*, December 1940). The reconsideration of the present war effort will probably lead Australia to more direct interference in production. The powers for thoroughgoing measures are to a large extent already in the hands of the government which, under the National Security Regulations of 1939, may requisition factories. Extensive powers are also available for the control of prices, but they have not been used to fix specific prices over a large field. The problem of shortage of skilled labour and of some raw materials is so far not solved. An acute shortage of shipping space together with a shortage of cold storage room is making it difficult to dispose of meat, butter, etc.

Among the measures adopted recently the most important are a scheme for storing food all over the country, and an agreement with New Zealand to set up a permanent committee for the co-ordination of defence and of economic policy of the two countries.

Speculation in Food

The North Midlands Price Regulation Committee, under the chairmanship of Sir Douglas McCraith, have drawn attention to cases of speculation in foodstuffs, which pass through the hands of middlemen before reaching the consumer. Thus soup sold by the manufacturer at 6½d. a can was retailed at 1s. 2½d. In this case there were altogether seven middlemen, and one of them actually entered the chain of speculators twice, as number 3 and number 5. Marmalade purchased by the importer at 8½d. a tin was being offered to the public at 3s. 6d. To stamp out abuses of this kind the Committee have suggested to the Ministry of Food that a comprehensive system of licensing should be established in the food trade and only licensed dealers permitted to enter the market. The foods should only be allowed to be sold by the producer or importer to the wholesaler, and by the wholesaler to the retailer, at each stage at a maximum fixed rate of profit. Sir Douglas said that the trivial fines which some benches had imposed in cases of proved profiteering were a matter for ridicule.[1]

There seems a definite need also for eliminating from the food trade such profits as at present arise from the use of subsidized foodstuffs in the preparation of expensive foods. For foods containing any substantial quantity of subsidized foodstuffs prices should be strictly controlled, and to ask more than the maximum fixed price should be made an offence. It is not known how all the money used for food subsidies is distributed, but the manufacture of cakes and sweets, which absorb flour, fats, and cocoa, seem to be cases for control. A strict control of prices should also be applied in the catering trade, which for the preparation of luxury foods should have to rely completely on unsubsidized ingredients. A rather striking case of what can only be described as the misuse of an essential food was reported in the *Oxford Mail*, on May 1st, where it was stated that at a moderately expensive West End restaurant the sweet dish offered with the lunch consisted of fruit salad made of fresh strawberries and slices of orange, the price of which is being kept by the Government at 6d. a pound. At the same time only few people were able to obtain oranges in shops, and it seems that quite a substantial proportion of the fruit recently imported was disposed of in bulk, partly to canteens and restaurants.

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[1] Subsequent to these publications by the North Midlands Price Committee the Ministry of Food declared that the cases mentioned by Sir Douglas McCraith were already being dealt with, and that they considered his disclosures as most improper. In reply the Committee issued an extensive statement explaining their sources, and strongly backed their Chairman's attitude,

In view of the present scarcity of foods it appears, indeed, that nothing short of comprehensive rationing will meet the case. Certain foodstuffs could be rationed by points,[1] thus permitting some freedom of choice and also allowing for variations in supply. Such rationing by points would make comparatively simple the use of coupons for meals in restaurants and canteens, which would help to bring about a more equitable distribution of the available supplies of food. The quantity of meat absorbed by catering establishments may only amount to about one eighth of the total meat consumption, but the total quantity of important foodstuffs of which there is a general scarcity—such as eggs, fish, milk, cheese, and fruit, besides meat—thus diverted to certain favoured sections, must be considerable.[2] There is good reason for canteen meals without the surrender of coupons, so long as rationed foods supply only a small proportion of a person's total food requirements and essential unrationed foods are scarce and dear; for then meals thus obtained represent an additional food allowance for people in need of it. If, however, food rationing by points were introduced—except, perhaps, for some essential foods which it might be better to keep rationed specifically—then a definite number of points to be surrendered could be fixed for canteen meals, while the nutritional contents of the meals could be varied so as to suit the requirements of different types of workers. Further, those who need additional food, in particular workers for whom no canteen meals are available, should be given additional points. Certain foods, such as eggs, tinned milk, and milk powder, could be reserved for children and invalids, to be bought by points on special coupons. It may be argued that the official checking of the used coupons, which would be necessary, would absorb more labour than can be spared. This argument, however, would scarcely carry much weight as, in fact, only a comparatively small staff would have to be employed for the purpose of checking, provided random samples were carefully scrutinized and stiff fines imposed on offending retailers and caterers. The bulk of the coupons could be checked simply by weighing them.

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[1] As an alternative to limiting total expenditure on food by value.

[2] Publicity in favour of communal feeding centres without extension of rationing to canteens, restaurants, etc., though socially desirable—as it provides poorer people with the equivalent of the dearer unrationed restaurant meals—will increase total consumption at an unpropitious moment.